

**ABSTRACT**

This invention pertains to a siloxane resin composition comprising  $R^1SiO_{3/2}$  siloxane units and  $(R^2O)_bSiO_{(4-b)/2}$  siloxane units wherein  $R^1$  is an alkyl group having 1 to 5 carbons;  $R^2$  is a branched alkyl group having 3 to 30 carbons, b is from 1 to 3. The siloxane resin contains a molar ratio of  $R^1SiO_{3/2}$  units to  $(R^2O)_bSiO_{(4-b)/2}$  units of 1:99 to 99:1. The siloxane resin is useful to make insoluble porous resins and insoluble porous coatings. Heating a substrate coated with the siloxane resin at a sufficient temperature effects removal of the  $R^2O$  groups to form an insoluble porous coating having a dielectric constant in the range of 2.1 to 3, a porosity in the range of 2 to 40 volume percent and a modulus in the range of 1.9 to 20 GPa.